

corn crop was late in the western belt. Advance was excellent in Iowa and the average condition was about normal; rains were helpful in the Atlantic States.

Cotton.—During the last decade temperatures were generally too low in the Southern States for good growth of cotton, but conditions were mostly favorable for cultivating and chopping. In Texas progress of the crop was poor to only fair due to cloudiness in the south and cool nights elsewhere, though cultivation made rapid advance and early plants were forming squares to the central portion. In Oklahoma planting was practically finished, but the crop was late and cultivation was poor. In central parts of the belt growth was slow, while in the Atlantic States showers were beneficial; squares were showing in early fields of South Carolina and in Georgia as far north as Augusta.

During the second decade temperatures were also too low for best development of cotton, while moisture was needed in much of the central area. General condition averaged only fair in Texas; there was some deterioration in the lower Rio Grande Valley due to frequent rains, but elsewhere advance was fairly good. In Oklahoma advance of early planted cotton was fairly good, but late-planted made only fair growth. Elsewhere west of the Mississippi River fair to fairly good progress was made. In central parts of the belt poor to only fair advance was indicated due to coolness and a general lack of sufficient

moisture. In more eastern portions poor to good progress was made, with cotton well fruited in southern Georgia and the first bloom reported in South Carolina two days ahead of normal.

During the last decade warmer weather was favorable and cultivation made good advance; rain was needed in central sections of the belt. In Texas some improvement was reported from most districts, but the crop was still late, though early-planted was fruiting well. Progress was generally very good in Oklahoma, while in Arkansas advance was very good to excellent. Rain was needed in a good many places in the central belt, especially for the late-planted, while in the Atlantic States there was too much rain in parts, but in general the weather was favorable, with progress mostly good.

Miscellaneous crops.—The accumulating deficiencies of precipitation in the Mississippi Valley and many east-central parts of the country was detrimental to pastures and at the close of the month many were reported in poor condition. Except locally dry areas, the great western grazing areas were satisfactory, with livestock doing well generally. Dry weather also unfavorably affected truck and garden crops. Sugar beets made good advance, but the drought unfavorably affected cane in Louisiana. Fruits did well, except for some locally heavy dropping.

WEATHER OF THE ATLANTIC AND PACIFIC OCEANS

NORTH ATLANTIC OCEAN

By F. A. Young

The most unusual feature of the weather over the North Atlantic during the current month was the scarcity of cyclonic disturbances accompanied by winds of gale force. Among the large number of forms received from vessels up to time of writing, only eight rendered gale reports, with a maximum wind force as high as nine in only two cases. Gales were not reported on more than one day in any 5° square, and all but one occurred after the 16th.

As shown in Table 1, both departures and extremes of pressure were comparatively small at most of the stations, and slight gradients were the rule during the greater part of the month.

TABLE 1.—Averages, departures, and extremes of atmospheric pressure at sea level, 8 a. m. (seventy-fifth meridian). North Atlantic Ocean, June, 1930

Stations	Average pressure	Departure	Highest	Date	Lowest	Date
	Inches	Inch	Inches		Inches	
Belle Isle, Newfoundland.....	29.87	¹ +0.03	30.58	10th.....	29.48	16th.
Halifax, Nova Scotia.....	29.99	² +0.02	30.50	10th ³	29.54	22d.
Nantucket.....	30.00	³ 0.00	30.34	12th.....	29.54	22d.
Hatteras.....	30.04	² +0.02	30.40	3d.....	29.70	22d.
Key West.....	29.97	² -0.02	30.10	30th.....	29.82	14th.
New Orleans.....	30.00	³ 0.00	30.16	3d.....	29.80	17th.
Cape Gracias, Nicaragua.....	29.88	¹ -0.04	29.92	6th ³	29.82	12th. ³
Turks Island.....	30.07	² +0.06	30.18	30th.....	29.98	13th.
Bermuda.....	30.15	² +0.02	30.38	3d ³	29.92	21st. ³
Horta, Azores.....	30.29	¹ +0.08	30.48	9th.....	30.14	15th. ³
Lerwick, Shetland Islands.....	29.89	¹ +0.09	30.43	15th.....	29.38	10th.
Valencia, Ireland.....	29.97	¹ -0.03	30.36	7th.....	29.55	30th.
London.....	30.00	¹ +0.07	30.27	15th.....	29.69	27th.

¹ From normals shown on Hydrographic Office Pilot Charts, based on observations at Greenwich mean noon, or 7 a. m., seventy-fifth meridian time.

² From normals based on 8 a. m. observations.

³ And on other date or dates.

Fog was unusually prevalent north of the fortieth parallel, west of the twentieth meridian, and also along the American coast between Hatteras and New York. The number of days in which it occurred in different sections of the ocean is as follows: Over the Grand Banks, from 20 to 23 days; along the American coast between the thirty-fifth and forty-fifth parallels, from 11 to 20 days; over the steamer lanes between the twenty-fifth and forty-fifth meridians, from 11 to 14 days; along the European coast from the thirty-fifth to fifty-fifth parallels, from 2 to 3 days.

Charts VIII to XI cover the period from the 23d to 26th, inclusive, and were drawn to show the conditions encountered by the airplane *Southern Cross* on her westward flight across the North Atlantic.

On the 1st St. Johns, Newfoundland, was near the center of a fairly well-developed Low, and the Dutch S. S. *Gaasterdijk* some 300 miles south of the center encountered a moderate gale, as shown in table. According to reports received, this was the only gale occurring before the 17th of the month.

On the 1st a vessel off the south coast of Florida, near Miami, reported an easterly wind, force 7, barometer 30.11 inches.

On the 2d westerly to northwesterly winds of force 7 prevailed over the steamer lanes, between the thirtieth and sixtieth meridians, and the area of low pressure remained over Newfoundland.

During the greater part of the month the North Atlantic HIGH was well developed, and from the 3d to 8th high pressure was also the rule over the ocean generally, resulting in stagnant wind circulation. From the 9th to 11th the Icelandic Low was comparatively active, and while the pressure gradient between the two centers of action was fairly steep during this period, few reports

of westerly wind of higher force than 6 were received from vessels in this region.

From the 12th to 16th an area of low pressure over-spread the middle and eastern sections of the steamer lanes, but was accompanied by moderate westerly winds only. From the 17th to 21st favorable weather prevailed generally, except that on the 17th and 18th moderate gales occurred over limited areas in the east section of the steamer lanes and off the northwest coast of Cuba, respectively.

On the 22d and 23d a low over the Maritime Provinces was responsible for moderate gales in the easterly and southerly quadrants, the conditions on the 23d being shown on Chart VIII.

From the 24th to 28th moderate weather again prevailed over practically the entire ocean. On the 29th a low was central near 50° N., 20° W., and moderate to strong northwesterly gales were reported by vessels between the center and 40th meridian, and southerly winds of force 7 in the easterly quadrants.

OCEAN GALES AND STORMS, JUNE 1930

Vessel	Voyage		Position at time of lowest barometer		Gale began	Time of lowest barometer	Gale ended	Lowest barometer	Direction of wind when gale began	Direction and force of wind at time of lowest barometer	Direction of wind when gale ended	Highest force of wind and direction	Shifts of wind near time of lowest barometer
	From—	To—	Latitude	Longitude									
NORTH ATLANTIC OCEAN													
Gaasterdijk, Du. S. S.	Rotterdam	Boston	42 19 N	57 19 W	June 2	Noon, 2	June 2	29.83	SW	W, 8	NW	W, 8	
Bristol City, Br. S. S.	Fowey	Portland, Me.	48 12 N	32 15 W	June 17	10 p., 17	June 18	29.74	SW	SW, 7	WNW	WSW, 8	SW-W.
El Oriente, Am. S. S.	New York	Galveston	25 22 N	84 45 W	June 18	9 a., 18	do	29.81	S	S, 8	S	S, 8	Steady.
Exford, Am. S. S.	Gibraltar	Providence	41 18 N	51 34 W	June 22	10 a., 22	June 24	29.93	SSW	SW, 8	S	SW, 8	Do.
Exmouth, Am. S. S.	Casablanca	New York	40 40 N	47 00 W	June 21	—, 22	do	30.07	SSW	SSW, 6	W	S, 8	SSW-S.
Kendal Castle, Br. S. S.	Norfolk	Antwerp	39 10 N	59 54 W	June 22	Mdt., 22	June 23	29.91	SW	S, 9	SW	S, 9	SW-S-SW.
Caronia, Br. S. S.	Cobb	New York	44 34 N	40 36 W	June 25	1a., 26	June 26	29.97	SW	SW, 8	SW	SW, 8	Steady.
Mercier, Belg. S. S.	New York	Antwerp	47 50 N	23 02 W	June 29	3a., 30	June 30	29.70	WNW	NNW, 7	NNW	NW, 9	
NORTH PACIFIC OCEAN													
Golden Wall, Am. S. S.	Shanghai	San Francisco	43 15 N	166 30 E	June 3	2a., 4	June 4	29.49	S	SSW, 7	SSW	S, 8	
Do	do	do	44 30 N	166 10 W	June 7	10 p., 7	June 8	29.24	WSW	W, 7	WNW	WNW, 8	WSW-WNW.
Wisconsin, Am. S. S.	Portland	Hakodate	46 49 N	160 10 E	June 4	Noon, 4	June 5	29.10	WSW	WSW, 6	W	WNW, 8	Do.
Olympia, Am. S. S.	Taku Bar	Seattle	50 20 N	149 00 W	June 7	6 p., 8	June 8	28.91	ENE	NE, 8	NNE	ENE, 8	ENE-NNE.
Silverhazel, Br. M. S.	San Francisco	Manila	41 15 N	141 00 W	do	9 p., 8	June 9	29.61	SW	SSW, 9	W	SSW, 9	SSW-W.
Manoa, Am. S. S.	do	Honolulu	34 56 N	126 56 W	June 11	8 p., 11	June 12	29.73	WNW	WNW, 9	W	WNW, 9	
Reijo Maru, Jap. S. S.	Portland	Yokohama	50 04 N	177 07 W	June 13	2 p., 14	June 15	28.80	SE	SSW, 9	W	SE, 10	SSW-SW.
Silverhazel, Br. S. S.	San Francisco	Manila	30 00 N	175 00 W	do	3 a., 14	do	29.91	S	S, 7	NW	S, 9	S-W-NW.
Taibun Maru, Jap. S. S.	Shimizu	Puget Sound	47 41 N	177 56 E	do	8 p., 14	June 16	28.93	ESE	W, 7	S	SW, 9	Variable.
Shikisan Maru, Jap. S. S.	Dairen	Los Angeles	33 22 N	124 30 E	June 14	8 a., 15	June 17	29.55	ENE	ENE, 7	NE	NE, 8	E-ENE-NE.
Malolo, Am. S. S.	Honolulu	San Francisco	37 34 N	123 25 W	June 17	4 a., 19	June 19	29.80	NE	NW, 5	NW	Nx E, 9	
Pres. Monroe, Am. S. S.	Manila	do	35 39 N	129 00 W	June 18	2 p., 19	do	30.00	NNE	N, 6	N	N, 8	NE-N.
Everett, Am. S. S.	Tacoma	Yokohama	52 30 N	159 15 W	June 21	8 p., 21	June 22	29.67	SE	SE, 8	S	SE, 8	SW-SE.
Do	do	do	51 18 N	172 39 W	June 23	8 a., 24	June 25	29.23	S	SSE, 8	SW	SE, 9	SW-ESE.
Pres. Hayes, Am. S. S.	Singapore	Manila	11 52 N	113 49 E	June 28	4 a., 30	July 1	29.51	SW	WSW, 8	SW	WSW, 9	WSW-SW.
REPORTS ON CYCLONE OFF WEST COAST OF MEXICO													
Willfaro, Am. S. S.	Los Angeles	Balboa	15 38 N	97 58 W	June 5	3 p., 5	June 6	29.74	E	E, —	SE	E, 8	Steady.
Drecht dyk, Du. M. S.	San Pedro	do	15 38 N	98 32 W	June 6	2 p., 6	do	29.74	E	E, 8	E	E, 8	Do.
Santa Veronica, Am. S. S.	Fort Allen, T. H.	do	13 12 N	98 48 W	do	2 p., 6	June 7	29.67	SE	SE, 7	SE	S, 7	SE-S.
Nora, Am. S. S.	San Pedro	Iquique	14 28 N	100 45 W	do	8 p., 6	do	29.72	NE	NE, 8	ESE	ESE, 9	NE-ESE.
Atlantic, Am. S. S.	New York	San Diego	18 15 N	104 17 W	June 4	2 a., 7	June 8	29.74	ESE	E, 8	ESE	E, 8	E-ESE-E.
Ecuador, Am. S. S.	San Francisco	Balboa	19 00 N	105 00 W	June 7	4 p., 7	do	29.74	SE	SE, 5	SE	SE, 8	Steady.
Astral, Am. S. S.	San Pedro	New York	21 00 N	107 10 W	June 9	4 a., 10	June 10	29.62	SE	SE, 9	S	S, 10	SE-SSE-S.
Atlantic Sun, Am. S. S.	do	Miami	21 15 N	108 00 W	June 10	Noon, 10	do	29.70	ESE	—, 9	SW	SE, 10	ESE-S.
San Felipe, Am. S. S.	do	Balboa	22 30 N	109 35 W	do	2 a., 10	do	29.47	NNE	NNE, 5	WSW	N, 7	NE-N.
Tamiahua, Am. S. S.	Long Beach	do	12 00 N	109 00 W	do	6 p., 10	June 11	29.14	E	Calm	WSW	NE, 10	ESE-O-SW.
Naples Maru, Jap. S. S.	San Pedro	do	21 30 N	109 05 W	do	5 p., 10	do	29.37	E	NNE, 11	SW	NNE, 11	E-N-SW.
Lena Luckenbach, Am. S. S.	do	do	22 01 N	108 52 W	do	8 p., 10	June 10	29.52	ENE	N, 10	NW	N, 10	NNE-N.
Noa, U. S. S.	Balboa	San Diego	21 13 N	108 53 W	do	5.30 p	June 11	29.08	SW	Light	NW	NW, 12	
William B. Preston, U. S. S.	do	do	Similar	conditions.	do	do	do	do	do	do	do	do	do
Hulbert, U. S. S.	do	do	do	do	do	do	do	do	do	do	do	do	do
SOUTH PACIFIC OCEAN													
Frank G. Drum, Am. S. S.	San Pedro	Wellington	40 47 S	177 14 E	June 21	6 a., 21	June 21	29.21	NE	NE, 8	W	NE, 10	NNE-W.

¹ Approximate position. No sights taken.

² Barometer uncorrected.